BULLETIN OF MARINE SCIENCE, 43(1): 88–92, 1988

A NEW SPECIES OF SCIAENID FISH, *PAREQUES IWAMOTOI,* FROM THE WESTERN ATLANTIC, WITH COLOR DESCRIPTIONS OF PREJUVENILE AND JUVENILE *PAREQUES ACUMINATUS* AND *PAREQUES UMBROSUS*

George C. Miller and Loren P. Woods

ABSTRACT

A new species of sciaenid fish, *Pareques iwamotoi,* is described from the western Atlantic. It is primarily a coastal species occurring on deep, offshore reefs from North Carolina to Brazil. Color characters are given to distinguish the different color patterns with growth of *Pareques acuminatus* and *P. umbrosus.*

Studies of fishes caught during exploratory fishing by the National Marine Fisheries Service, Pascagoula and Miami Laboratories have greatly enhanced our knowledge of the fauna of the western Atlantic. Both of us, independently, found a new species of sciaenid fish of the genus *Pareques* in these collections. The species, until this description, was given the common name *Pareques* black bar by the senior author, and this name has been used in faunal lists. We prefer blackbar drum. Over the years, the decision as to who was going to describe this species has gone back and forth between the authors and other individuals. It gives me great pleasure at this time to describe this new species with my good friend the late Loren P. Woods.

McPhail (1961) in the most recent review of *Equetus* and *Pareques* species separated the genera on the basis of the three free interneural spines in *Pareques,* which are lacking in *Equetus*; the smaller number of soft dorsal rays in *Pareques,* fewer than 45; and on other characters. We follow McPhail (1961) and Chao (1978) in recognizing *Pareques* and place our new species in it.

Three species of *Equetus* were listed in the western Atlantic by McPhail (1961), *Equetus lanceolatus* (Linnaeus), *E. punctatus* (Schneider), and *E. pulcher* (Steindachner). We differ from McPhail in that we regard the three-striped individuals, identified by him as *E. pulcher,* as a species of *Pareques* because they bear three free interneural spines. Also, the three-striped color pattern is that of a young prejuvenile which changes with growth; the elongated spiny dorsal and middle rays of the caudal of the juveniles do not remain long as in *Equetus,* but decrease proportionately with growth. *E. pulcher* is described from a prejuvenile and is a junior synonym of *P. acuminatus* (Schneider).

There are six species of *Pareques: P. fuscovittatus* (Kendall and RadCliffe, 1912), *P. viola* (Gilbert, 1898), and *P. lanfeari* (Barton, 1947) from the eastern Pacific; and *P. acuminatus* (Schneider, 1801), *P. umbrosus* (Jordan and Eigenmann, 1866), and *P. iwamotoi* Miller and Woods new species from the western Atlantic.

Color patterns, although changing with growth, are extremely important in identifying species of *Pareques* because meristic characters overlap considerably. Color characters used to distinguish *P. acuminatus* from *P. umbrosus* with growth are described.

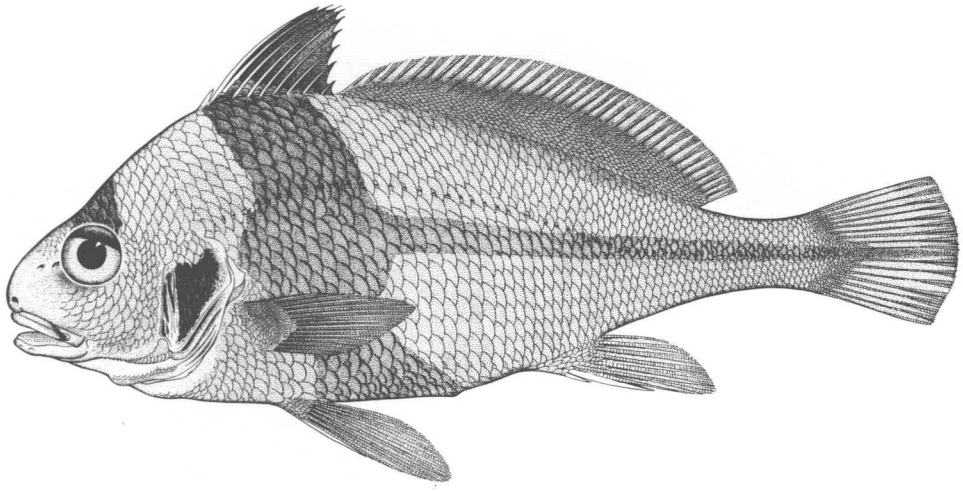

Figure 1. Holotype of *Pareques iwamotoi,* 172 mm SL, USNM 174972.

Pareques iwamotoi new species
Blackbar Drum
Figure 1

Holotype.—USNM 174972: (172 mm SL) off Pensacola, Florida, OREGON 698, 30°03'N Lat., 86°55'W Long., 101 m, 15 November 1952, shrimp trawl.

Paratypes.—CNHM 45534: 1 (208 mm SL), same data as type; CNHM 45535: 1 (215 mm SL); West of Cape San Blas, Florida, OREGON 706, 29°37.3'N Lat., 86°03'W Long., 55 m, 16 November 1952. CNHM 64167: 1 (245 mm SL); West of Panama City, Florida, OREGON 945, 29°48'N Lat., 86°37'W Long., 122 m. CNHM 45532: 2 (96 and 105.5 mm SL); SE of Port Isabel, Texas, OREGON 673, 25°35'N Lat., 96°47'W Long., 57 m. CNHM 45531: 1 (112 mm SL); off Aransas Pass, Texas 26°48'N Lat., 96°23'W Long., approximately 37 m. CNHM 45533: 1 (114 mm SL); off Aransas Pass, Texas, 27°32'N Lat., 96°21'W Long., 101 m. UMML 7133: 1 (175 mm SL); E. of Mississippi River delta, OREGON 2803, 29°13.5'N Lat., 88°13'W Long., 124 m. CNHM 65407: 1 (169 mm SL); western Atlantic Ocean, off Cape Lookout, North Carolina, COMBAT 397, 34°26'N Lat., 75°55'W Long., 73 m. CNHM 64166: 4 (125–129 mm SL); west of Panama City, Fl., OREGON 944, 29°50'N Lat., 86°30'W Long., 91 m.

Other Specimens Examined.—The specimens examined will be listed by the collection, collection number, vessel (S-SILVER BAY, O-OREGON) and station number, number of specimens, and range of standard length in parenthesis. CNHM: 45534, O-698, 1; 64166, O-944, 4; 65415, O-1933, 3; 65416, O-2015, 1. Miami Lab: S-2990, 4 (142–229); S-2992, 12 (135–330); S-3657, 2 (90–96); S-3658, 1 (101); S-3767, 6 (240–310); S-4665, 10 (190–273); S-5396, 3 (175–205); S-5406, 2 (207–248); S-5632, 1 (211); S-5644, 1 (204); S-5661, 1 (120); S-5695, 1 (88); S-5741, 1 (165); O-4393, 1 (95); O-4394, 2 (115–180); O-4467, 2 (80–100); O-4476, 2 (157–222); O-4628, 1 (155); O-4913, 1 (150); O-4920, 9 (122–190); O-4950, 3 (175–240); O-5031, 3 (86–165); O-5040, 15 (117–195); O-5656, 8; O-5961, 1 (142); O-5963, 3 (133–141); O-6044, 1 (122); O-6399, 1 (145); O-6426, 1 (88); O-6448, 1 (194). CAS: S-1505, 1 (160); S-3334, 1 (151); O-3804, 3 (juv); O-476, 3 (77–155); O-4694, 1 (190); O-5025, 3 (115–183).

Diagnosis.—Body color tan to dark brownish black with a broad dark transverse bar extending from spiny dorsal to abdomen; some juveniles and young adults with large dark wedge-shaped spot on head above and posterior to orbits; peritoneum black; lining of branchial cavity black; body deep, 36–41% SL; caudal peduncle slender, depth 6.0–8.8% SL.

Description.—Counts of the holotype are given followed by the range in parenthesis. Dorsal fin rays X,38 (IX–XI, 33–40); anal fin rays II,7 (II,7–8); pectoral

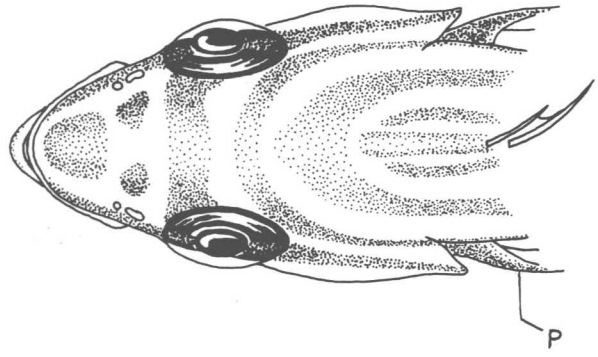

Figure 2. Dorsal view of head, seven plus stripe pattern, of *Pareques acuminatus*, CNHM 87678.

fin rays 17 (15–18); pelvic fin rays I,5; caudal fin principal rays 9 + 8 (9 + 8–9); lateral line scales 51 (47–52); vertebrae 10 + 15; neural spines 23–24; interneural spines 3 + 1 + 43–49 (usually 3 + 1 + 48–50); haemal spines 8–11 + 13–15 (usually 9 + 14); branchiostegals 6–7; gillrakers and tubercles on first gill arch, epibranchial 6 (4–7), angle 1, cerato- and hypobranchial 12 (9–12), total 19 (15–19); tubercles only second gill arch 11–13.

Measurements of the holotype followed by range in parenthesis, expressed as a percent of standard length. Head length 30.9 (30.8–32.7); greatest body depth 38.1 (36.4–41.1); snout length 8.7 (8.1–10.2); orbital length 8.1 (7.8–10.4); least interorbital width 7.6 (6.4–7.8); upper jaw length 10.3 (9.9–11.6); least caudal peduncle depth 8.0 (6.0–8.8); pectoral fin length 22.7 (20.5–24.5); pelvic fin length 22.8 (19.8–24.2); longest dorsal spine length 16.6 (15.7–21.3); second anal spine length 13.8 (12.6–17.1).

Body compressed, rather deep; caudal peduncle slender; spiny dorsal fin higher than soft dorsal fin and nearly separated from it, the latter low and smoothly rounded; first dorsal spine short and thick, second spine long, flexible, and penultimate, last (posterior spine) usually short and thick; pectoral and pelvic fins moderately long and may be pointed; caudal fin with middle rays slightly longer than outer rays; scales above lateral line smaller than those below, rows obliquely dorsad, bases of soft dorsal, caudal, anal, and pectoral scaled.

Head profile moderately steep (40–45 degrees); snout blunt, rounded, protruding beyond upper jaw; mouth small, inferior, nearly horizontal; tip of snout with one large median and two lateral mucous canal openings, smaller median and two lateral openings above and inside of the larger ones; lower jaw with a median and two pairs of lateral mucous canal openings, posterior pair largest; anterior nostril rounded with slightly raised rim, posterior nostril larger, just anterior to orbit; upper jaw teeth in fine bands with outer teeth larger, in lower jaw outer teeth not larger, no teeth on vomer, palatines, or tongue; head scaled except preorbital, mandible, and tip of snout; preopercular margin membranous, fin denticulate.

Pigmentation.—Ground color of head and body light brown in small individuals, dark to light brown in large individuals. Broad, oblique very dark brown band on body extending from base of spiny dorsal, behind pectorals, to abdomen. Narrow dark stripe on middle of sides extending from head to distal end of caudal rays. The dark band and stripe distinct in small specimens 95–110 mm; less distinct though still evident on fish 170–213 mm; and in very large specimens 247–298 mm the band is faint and the lateral stripe not evident. Spiny dorsal fin black; soft dorsal fin dark brown with some rays, black tip; caudal fin black; anterior

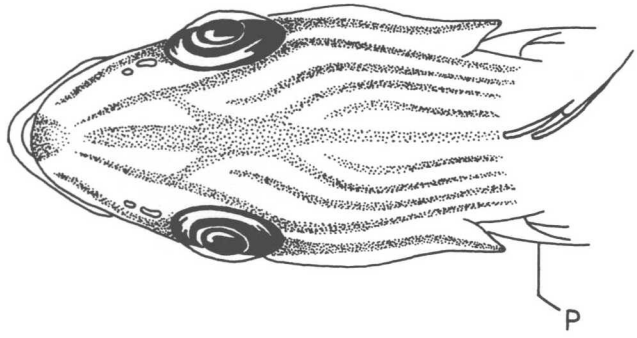

Figure 3. Dorsal view of head, seven plus stripe pattern, of *Pareques umbrosus*, CNHM 87677.

anal rays black; pelvics black; pectoral dusky to black. Operculum with irregular black blotch; peritoneum black (light in *P. umbrosus* and *P. acuminatus*); lining of branchial chamber black.

Etymology.—This species is named in honor of our good friend, Tomio Iwamoto, who participated in the early exploratory fishing cruises and who is a well recognized world authority for his contributions to the knowledge of the deep water macrourid fishes.

Range.—*P. iwamotoi* is generally a coastal species ranging from North Carolina south through the Gulf of Mexico and Caribbean to Brazil.

Habitat.—The species is usually found from 37–184 m on reefs or hard bottom. The larvae and young may occur as shallow as 2½ m (Powles and Burgess, 1978, fig. 3) and 14 m (Darovec, 1983). Miller and Richards (1980) used the black bar drum as an indicator species of the deep offshore reefs from North Carolina to Florida.

Comments.—A larval *Pareques*, 6.6 mm SL, was described by Powles and Burgess (1978) from a specimen collected off Santa Marta, Colombia. The specimen was identified as a species distinct from two larvae collected in Florida. We tentatively identify the Santa Marta larva as *P. iwamotoi* based on the large black blotch occurring above the orbits (in the other larvae the spot is posterior to the orbit and not nearly as pigmented), the densely pigmented area of the spiny dorsal fin and the body below it, the densely pigmented abdomen above the pelvic fins, the pigmented stripe along the vertebrae, and the longer spiny dorsal fin and shorter pelvic fins at this size. An adult is depicted in a color photograph plus a brief description in Ueyno and Sato (1983).

The stomachs of large adult *P. iwamotoi* were packed with large numbers of small gastropods.

Distinguishing Color Patterns of *P. acuminatus* and *P. umbrosus*

Pareques undergoes changes from pigmentation of the larvae, through incomplete coloration stage of the prejuveniles, reaching complete coloration of the juveniles, similar to that reported by Lindeman (1986) for *Haemulon*.

In *P. acuminatus* and *P. umbrosus* there is a three-stripe pattern in the prejuvenile stage and seven plus stripe pattern in the juvenile stage. The juvenile stage may be reached by 50 mm TL. The three stripe and seven plus stripe patterns of the two species are easily distinguished, for *P. acuminatus* bears a broad, black interorbital band which *P. umbrosus* lacks, as seen in Figures 2 and 3.

In the three-stripe prejuvenile stage, *P. acuminatus* bears a large black spot at the tip of the snout and lower jaw, and the black spot on the anal extends dorsally to the ventral stripe, whereas in *P. umbrosus* the spot on the snout is small and the anal fin dusky, not coalescing in color with the ventral stripe.

In the seven plus stripe juvenile stage *P. acuminatus* bears seven lateral stripes, four broad and three narrow; a stripe found along the anterior base of the soft dorsal fin extends less than ½ the fin posteriorly; a triangular, broad stripe found below the spiny dorsal fin extends posteriorly to beneath the anterior rays of the soft dorsal fin; the stripe immediately above the eye coalesces with the stripe from the other side of the fish at the posterior of the orbits (Fig. 2); the snout bears one large and two smaller black spots (Fig. 2). *P. umbrosus* bears seven, narrow nearly equal in width lateral stripes, interspaced with six very narrow stripes (see Kritzler, 1951, fig. 1); the stripe along the anterior base of the soft dorsal fin extends more than ½ of the fin posteriorly; a narrow stripe, scarcely triangular, found below the spiny dorsal fin, extends to the posterior half of the soft dorsal fin; the stripe immediately above the eye extends anteriorly to or near the tip of the snout (Fig. 3); the snout bears one small black spot at its tip (Fig. 3).

In the adult color pattern of *P. acuminatus,* the four major stripes of black broaden, with minor stripes disappearing, becoming dark brown in color with five or six narrow interspaces of gray. The seven major and six minor black stripes remain evident in the adult of *P. umbrosus* with the body having a coppery sheen; fish becoming dark with stripes less evident when disturbed (Kritzler, 1951). The stripe pattern of small and medium size *P. umbrosus* is retained in preservative (personal observation, and Darovec (1983)).

Acknowledgments

We wish to thank H. R. Bullis for making available to us specimens of this species for study and description. C. R. Robins, University of Miami, permitted us to describe a specimen from the collections under his care and kindly reviewed this manuscript. T. Dolan prepared the drawing of the holotype of *P. iwamotoi,* and M. A. Holloway the heads of *P. acuminatus* and *P. umbrosus.*

Literature Cited

Chao, L. N. 1978. A basis for classifying western Atlantic Sciaenidae (Teleostei: Perciformes). NOAA Tech. Rep., NMFS Circ. 415: 64 pp.

Darovec, J. E. Jr. 1983. Sciaenid fishes (Osteichthyes: Perciformes) of western peninsular Florida. Fl. Dept. Nat. Res., Mem. Hourglass Cruises 6(3): 73 pp.

Kritzler, H. 1951. Three rare fishes (*Nodogymnus, Pareques,* and *Canthidermis*) from the Florida east coast. Copeia 1951: 245–246.

Lindeman, K. C. 1986. Development of larvae of the French grunt, *Haemulon flavolineatum,* and comparative development of twelve species of western Atlantic *Haemulon* (Percoidei, Haemulidae). Bull. Mar. Sci. 39: 673–716.

McPhail, J. D. 1961. A review of the tropical eastern Pacific species of *Pareques* (Sciaenidae). Copeia 1961: 27–32.

Miller, G. C. and W. J. Richards. 1980. Reef fish habitat, faunal assemblages, and factors determining distributions in the South Atlantic Bight. Proc. Gulf Carib. Fish. Inst. 32: 114–130.

Powles, H. and W. E. Burgess. 1978. Observations on benthic larvae of *Pareques* (Pisces: Sciaenidae) from Florida and Colombia. Copeia 1978: 169–172.

Ueyno, T. and Y. Sato. 1983. *Pareques* sp. Page 364 *in* T. Ueyno, K. Matsuura, and E. Fujii, eds. Fishes trawled off Suriname and French Guiana. Japan Marine Fishery Resource Research Center. 519 pp.

Date Accepted: November 2, 1987.

Address: *(G.C.M.) retired from Southeast Fisheries Center, 75 Virginia Beach Drive, Miami, Florida 33149;* Present Address: *502 Wesley Oak Drive, St. Simons, Georgia, 31522; (L.P.W.) deceased. Formerly with Field Museum of Natural History, Chicago, Illinois.*